



**Training Proposal for:
Solyndra, Inc.**

Clean Energy Workforce Training Program (CEWTP)

Agreement Number: ET10-0603

Panel Meeting of: January 29, 2010

ETP Regional Office: **San Francisco Bay Area**

Analyst: D. Woodside

PROJECT PROFILE

Contract
Type: Priority/Retrainee

Industry
Sector(s): Manufacturing
Green Technology
Job Creation

Counties
Served: Alameda

Union(s): ☐ Yes ☒ No

FUNDING DETAIL

All funding will be under the American Recovery and Reinvestment Act (ARRA).

Program Costs	Total ETP Funding	In-Kind Contribution
\$350,550	350,550	\$547,011

TRAINING PLAN TABLE

Job No.	Job Description (by Contract Type)	Type of Training	Estimated No. of Trainees	Range of Hours		Average Cost per Trainee	Post-Retention Wage
				Class / Lab	CBT		
1	Priority/Retrainee	Manufacturing Skills	205	24-200	0	\$1,710	\$14.87
				Weighted Avg: 95			
Minimum Wage by County (Benchmark): \$14.87 for Alameda County.							
Health Benefits: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No This is employer share of cost for healthcare premiums – medical, dental, vision.							
Used to meet the Post-Retention Wage?: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Up to \$2.28 per hour may be used to meet the Post-Retention Wage.							

Wage Range by Occupation	
Occupation Title	Wage Range
Maintenance Technician	
Process Technician	
Operator	
Equipment Engineer	
Process Engineer	

INTRODUCTION

Solyndra, Inc. (Solyndra) meets the CEWTP guidelines as a photovoltaic systems manufacturer. The Panel approved a Critical Proposal to fund \$494,000 in training at Solyndra under the ETP “core program” last month. That training will reach incumbent workers with classroom and laboratory training at all of Solyndra’s headquarters and operations. This proposal will fund productive lab training on the manufacturing floor for front-line workers and does not duplicate, but rather supplements, the training previously funded by the Panel.

Solyndra, founded in 2005, has facilities in Fremont and Milpitas. The company designs and manufactures photovoltaic systems, comprised of panels and mounting hardware, for the commercial rooftop market. The company employs high volume manufacturing based on proven technologies and processes to meet the needs of the global solar market. Using proprietary cylindrical modules and thin-film technology, Solyndra systems are designed to provide the lowest installed cost per system and the highest solar electrical energy output for typical low slope commercial rooftops.

Solyndra currently operates a state-of-the-art 300,000 square foot fully-automated manufacturing complex (Fab 1) and is constructing a second 800,000 square feet solar panel manufacturing facility (Fab 2) to become operational in mid-2010, resulting in the hire of 500 additional workers mid-to late 2010. The retention period for these trainees may be 200 hours within 365 days, consistent with the Panel’s guidelines.

PROJECT PROFILE

This is a complimentary project to augment the previous Critical Proposal 100% Class/Lab training. This funding request under CEWTP provides 100% productive lab training. In this instance, the availability of CEWTP ARRA funds allows ETP to meet a unique need for this green industry manufacturing employer.

Solyndra is requesting funding under CEWTP to provide between 24-200 hours of productive lab training to its frontline workers in Manufacturing Skills. This training will enable front-line operators, technicians, and engineers to use new equipment and new manufacturing processes in Solyndra's Fab 2 facility. The company reports that the current Fab 1 systems and tools related to encapsulation, lasers, automation, and thin film production cannot meet Fab 2 requirements. Solyndra must define new systems for Fab 2, which are being developed by Solyndra in partnership with leading suppliers.

This will be hands-on training for employees, including those newly-hired, to learn skills necessary to operate, maintain, troubleshoot, and do preventative maintenance on the new systems. Skills required for the successful completion of training include an in-depth knowledge of mechanical, electrical, and controls systems; the capability to troubleshoot equipment faults; and to calibrate mechanical hardware. These trainees will become the cadre to train additional shifts for Fab 2 as it ramps up and expands in the future.

All production lab training will occur under the direction and supervision of a dedicated trainer. The trainer's time during production lab training will be dedicated exclusively to the instruction of trainees. The trainees will operate equipment under close supervision until they are competent to work independently and their competency level is certified by another company employee (instructor and/or supervisor). The trainer will eventually move each trainee into a position of responsibility for a piece of equipment, such as being able to interpret data and shut the machine down as required; and to evaluate process effectiveness using statistical data, including understanding production trends.

The company has determined that conducting production lab training on the equipment directly on the plant floor rather than exclusively in a classroom or laboratory environment is a necessary method of providing manufacturing skills training – given that the tools to be installed are new to the company. This training will be delivered in conjunction with classroom training also funded under CEWTP.

For example, the laboratory training on Agile software will involve pulling documents specific to what manufacturing processes are currently taking place and analyzing those specific documents. With Quickbase, the laboratory training would involve specific documentation for troubleshooting that occurs in the production process. With Oracle-based software, the laboratory training would involve learning to search for parts in the system when they are needed. All laboratory will involve putting the "theory" and "overview" taught in the classroom into specific practice on the manufacturing floor.

Solyndra training staff are currently in the process of customizing the company's laboratory documentation procedures known as "Training and Certification System for Manufacturing". This system includes a checklist of certification requirements with competencies to be achieved. There is also a description of the process for obtaining signatures of certified trainers and process owners to document the delivery of training. ETP staff will continue to work with Solyndra to have an approved documentation system in place prior to the start of training.

Commitment to Training

Solyndra has primarily used on-the-job training to teach workers their specific job requirements. As the company expands to its new fabrication site and begins hiring additional people, its goal is to implement an established, formal training program comprised of classroom/lab, productive lab, and web-based training. Solyndra represents that these federal funds will not displace its existing financial commitment to training and the company anticipates that the opportunity for enhanced training under CEWTP funds will encourage an ongoing financial commitment in workforce training.

All safety training is, and will continue to be, provided by Solyndra in accordance with all pertinent requirements under state and federal law.

RECOMMENDATION

For the reasons set forth above, staff recommends approval of this proposal because it meets the CEWTP guidelines to support retraining for manufacturing jobs in a company whose primary and on-going product (photovoltaic solar panels) is a renewable energy product. In addition, the Panel's support of Solyndra's growth will lead to more jobs for Californians.

DEVELOPMENT SERVICES

N/A

ADMINISTRATIVE SERVICES

Solyndra will conduct its own administration.

TRAINING VENDORS

Training will be provided primarily by employees of Solyndra. Any outside training vendors will be identified for ETP record-keeping purposes as they are retained by the company.

Exhibit B: Menu Curriculum**Productive Lab Hours**

24-200

MANUFACTURING SKILLS

- ✚ Photovoltaic Parts and System Manufacture
- ✚ Equipment Operation and Maintenance
- ✚ Assembly Skills and Procedures
- ✚ System Maintenance
- ✚ Equipment Improvement
- ✚ Total Preventative Maintenance (TPM)
- ✚ New Product Process Development/Introduction
- ✚ New Product Model Launch
- ✚ Just-in-Time Process Flow
- ✚ Takt (German word for beat/rate time) Time/Cycle Time
- ✚ Error Proofing
- ✚ Standardization of Work Processes
- ✚ Failure Resolution Process
- ✚ Problem Solving Process
- ✚ Basic Electrical Techniques
- ✚ Basic Mechanical Techniques
- ✚ Vacuum Training
- ✚ Trouble Shooting
- ✚ Agile Software
- ✚ Quickbase Software
- ✚ Oracle-based system operation
- ✚ Specialty Gas Bottle Changing Techniques
- ✚ Process Instrumentation Design (Valve/Architecture)
- ✚ Schematics Reading and Understanding
- ✚ High Precision Maintenance

Note: Reimbursement for retraining is capped at 200 total productive lab training hours per trainee.
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